Sharps Injury Prevention in the Intraoperative Setting
Objectives

• Describe methods to reduce sharps injury to the health care team.

• Describe the risks associated with handling sharps in the intraoperative setting.

• Describe safe practices for handling knife blades and suture needles.

• Identify a “neutral zone” for passing sharps.

• Describe recommended practice for double gloving.

• Describe recommended safe practices for cleaning instrumentation.
There are an estimated nearly 600,000 to 800,000 percutaneous injuries that occur annually among healthcare workers.

Research indicates injuries from sharp devices occur in 7-15% of all surgical procedures.

Surgeons and First Assistants/Residents have the highest risk of injury at 59%.

Scrub personnel have the second highest frequency at 19%.

Anesthesia personnel and circulating nurses are the third highest at 6%.
Background

Procedures identified as highest risk of injury:

• Thoracic
• Trauma
• Burn
• Emergency Orthopedic
• Major Vascular
• Intra-abdominal
• Gynecologic surgeries
Injuries from Suture Needles Occur Most Often When:

- Loading Needle Holder
- Hand to Hand passing of needles between scrub and surgeon
- Tying suture when a needle is attached
- When surgeon sews toward themselves or to an assistant
- When retracting or stretching tissues with hands
- When placing used needle in an overfilled sharps container
Injuries from Scalpels Occur Most Often When:

- Loading or removing a disposable scalpel blade on a reusable knife handle
- During hand to hand passing of the scalpel
- Cutting toward the surgeons or assistants
OSHA Requirements

Engineering and work practice controls shall be implemented to eliminate or minimize the risk of occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

*OSHA Regulations 29 CFR 1910.1030(d)(2)(i)*
Double Gloving

• Double glove during all intraoperative procedures.

• Monitor gloves periodically for punctures.
Safe practices for using knife blades

• Use safety handles that shield the knife blade when handling or passing.

• Practice “Hands Free” transfer of blades when there is a not a safety device option available.
Perioperative Specific Risk Reduction Strategies

• Use a scalpel disarmer when unloading blades.
Perioperative Specific Risk Reduction Strategies

Safe practices for using suture needles

• Use blunt suture needles when sewing fascia and muscle.

• Pass needles using “hands free” method.
Perioperative Specific Risk Reduction Strategies

• Load suture needles using suture packet to assist in mounting.

• Place needle on needle counter with instrument.

• Remove needle from suture before tying.
Identify a “Neutral Zone”. The designated area on the surgical field where sharps can be given to or received from the surgeon.
Work Practices That Help To Reduce Sharp Injuries

- Communicate location and use of neutral zone to the surgical team.
- Give verbal notification when passing a sharp device.
- Organize work area so sharps are pointed away from team members.
- Keep track of and account for all sharp items.
- Keep hands away from surgical site when sharp devices are in use.
- When counting sharps in the needle book, always use an instrument to help separate for visualization.
Safe practices for cleaning instrumentation

• When cleaning instrumentation don non-penetrating gloves along with PPE’s to protect against accidental injury from sharp items.

• Use tongs to grasp instrumentation rather than reaching blindly into sink.
Summary

• Double glove during all intraoperative procedures.

• Cover knife blade with safety shield when passing knife handle.

• Use the blade disarmer when unloading knife blades.

• Use blunt sutures when sewing muscle and fascia.

• Establish a neutral zone when passing sharp items.

• Use puncture resistant gloves and tongs when cleaning instrumentation.
National Institute for Occupational Safety and Health, “Preventing needlestick injuries in health care settings,”


“Regulations (Standard-29 CFR) Bloodborne pathogens 1910.1030,”
Occupational Safety and health Administration,